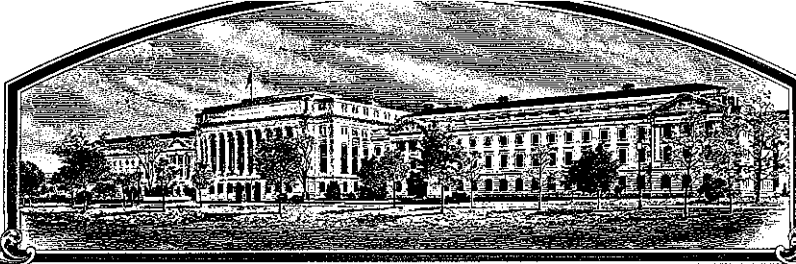


No.

7800069



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Mrs. Barbara B. Curtis, and Lofts Pedigreed Seed, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.


NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *seventeen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

KENTUCKY BLUEGRASS

'RAM 1'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 15th day of March in the year of our Lord one thousand nine hundred and seventy-nine

Attest:


Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service


Secretary of Agriculture



UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
PLANT VARIETY PROTECTION OFFICE
NATIONAL AGRICULTURAL LIBRARY
BELTSVILLE, MARYLAND 20705

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1a. TEMPORARY DESIGNATION OF VARIETY RAM I (A)		1b. VARIETY NAME RAM I		FOR OFFICIAL USE ONLY ENTRY NUMBER 7800069	
2. KIND NAME KENTUCKY BLUEGRASS		3. GENUS AND SPECIES NAME Poa pratensis L.		FILING DATE 5-12-78	TIME 2:30 P.M.
4. FAMILY NAME (BOTANICAL) Gramineae		5. DATE OF DETERMINATION June 16, 1972		FEE RECEIVED \$ 250.00 \$ 250.00 \$ 250.00	DATE 5-12-78 5-12-78 1-9-79
6. NAME OF APPLICANT(S) MRS. BARBARA B. CURTIS		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) MAIN STREET WEST KENNEBUNK, MAINE 04045		8. TELEPHONE AREA CODE AND NUMBER	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.)		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION		11. DATE OF INCORPORATION	
12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers: RICHARD HURLEY LOFTS PEDIGREED SEED, INC. P. O. BOX 146 BOUND BROOK, N. J. 08805					
13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED: <input checked="" type="checkbox"/> 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.) <input checked="" type="checkbox"/> 13B. Exhibit B, Novelty Statement. <input checked="" type="checkbox"/> 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.) <input type="checkbox"/> 13D. Exhibit D, Additional Description of the Variety.					
14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? (See Section 83(a). (If "Yes," answer 14B and 14C below.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
14B. Does the applicant(s) specify that this variety be limited as to number of generations? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		14C. If "Yes," to 14B, how many generations of production beyond breeder seed? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED			
15. Does the applicant(s) agree to the publication of his/her (their) name(s) and address in the Official Journal? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
16. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.					

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

x April 4, 1978
(DATE)x Barbara B. Curtis
(SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application, ^{2,500 seeds \$1500} exhibits and ~~\$250.00~~ fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, National Agricultural Library, Beltsville, Maryland 20705. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

5 Give the date the applicant determined that he had a new variety based on (1) the definition in Section 41(a) of the Act and (2) the date a decision was made to increase the seed.

13a Give (1), the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. (2), the details of subsequent stages of selection and multiplication, (3), the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4), evidence of stability.

13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties; (1) identify these varieties and state all differences objectively; (2) Attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

13c Fill in the Exhibit C, Objective Description form for all characteristics, for which you have adequate data.

13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe; such as; plant habit, plant color, disease resistance, etc.

14A If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled or published or the certificate has been issued. However, if the applicant specifies "NO", he may change his choice. (See Section 180.15 of the Regulations and Rules of Practice.)

EXHIBIT 13A.

Origin and Breeding History of the Variety RAM I Kentucky Bluegrass.

1. RAM I Kentucky bluegrass traces to the selection of a single facultatively apomictic plant discovered on the ninth green of the Webhamnet Golf Club, Kennebunk Beach, Maine by Ernest W. Brown, Supt. and Alexander M. Radko of the United States Golf Association Green Section. Vegetative propagules of this selection were collected by Alexander M. Radko on July 9, 1970 which were clonally increased and transferred to a spaced-plant nursery at Adelphia, New Jersey under the direction of Dr. C. R. Funk.
2. Observations and ratings of the RAM I selection during May and June of 1971 indicated that RAM I was a promising entry distinctly different from all other cultivars and experimental selections in the nursery. Seed harvested from these spaced-plants of RAM I was used to establish progeny tests, greenhouse trials and turfgrass evaluation plots during the summer and fall of 1971. Seed for regional testing and experimental foundation increase was harvested from the 1971 progeny tests.
3. Examination of spaced-plant progeny tests during June 1972 by Dr. C. R. Funk and W. K. Dickson indicated that over 95 per cent of the plants in the progeny of RAM I were indistinguishable from their maternal parent indicating a high level of apomictic reproduction. Aberrant plants are generally smaller and weaker than the apomictic progeny of RAM I and are mostly crowded out of solid turf plantings and seed increase fields.
4. Subsequent spaced-plant progeny tests at Rutgers, observations of turf trials at Rutgers and a number of other locations throughout the Northeast, and initial observations of experimental seed increase field in Oregon have confirmed the highly apomictic nature and subsequent uniformity of RAM I.

NOVELTY STATEMENT

RAM I Kentucky bluegrass is a moderately low-growing, turf-type variety which provides good turf quality. The original plant discovered on the ninth putting green of the Webhannet Golf Club had spread to an area of over six square feet indicating exceptional tolerance to the close cut maintenance of 5/16 inch. Under New Jersey conditions, RAM I has exhibited moderate resistance to the leaf spot and crown rot disease caused by Helminthosporium vagans (Table 1.). RAM I exhibited moderate susceptibility to the leaf rust disease incited by Puccinia poae-nemoralis under spaced-plant nursery conditions at Adelphia, New Jersey, being comparable to Merion and Baron in this respect (Table 2.). Observations in Kansas and New Jersey showed RAM I to have moderately good resistance to the stem rust disease incited by Puccinia graminis (Tables 3 & 4). Turf quality trials in New Jersey, Illinois, and Kansas (Tables 5, 6, & 7) showed that RAM I produced an attractive turf throughout the growing season. RAM I appeared to exhibit above average tolerance to tricalcium arsenate (Table 8.). RAM I has exhibited good competitive ability against Poa annua invasion in a closely mowed turf (Table 9.).

Novelty of RAM I Kentucky bluegrass is based on the unique combination of the following characteristics:

1. Good tolerance of close mowing (Tables 5, 7, & 9).
2. Medium to coarse leaf texture (Table 10).
3. Rather heavy seed (Table 11).
4. Moderate resistance to Helminthosporium vagans (Tables 1, 12, & 13).
5. Moderately good resistance to Puccinia graminis (Tables 3 & 4).
6. Moderate susceptibility to Puccinia poae-nemoralis (Table 2).
7. Above average tolerance to Tricalcium arsenate (Table 8).
8. Good competitive ability against Poa annua invasion (Table 9).
9. Good early spring green-up (Tables 7, 10, & 14).
10. Good resistance to Ustilago striiformis (Tables 6 & 15).
11. Good resistance to Erysiphe graminis (Table 16).

RAM I most closely resembled "Glade" Kentucky bluegrass. Except it ^{is moderately} has a lower ^{while "GLADE" is resistant} susceptible resistance to leaf rust incited by Puccinia poae-nemoralis and better early spring green-up. ^{has} better 9/19/78

TABLE 1. Leafspot ratings on cultivars of Kentucky bluegrass caused by Helminthosporium vagans on May 16, 1975 at Adelphia, New Jersey.

CULTIVAR	* RATING
NUGGET	0.8 A+
BONNIEBLUE	1.3 AB
MERION	1.4 AB
MAJESTIC	1.9 AB
ADELPHI	1.9 AB
VICTA	3.1 B
BARON	3.2 B
CHERI	4.3 BC
RAM I	4.5 BC
VANTAGE	5.4 C
KENBLUE	7.3 D
S.D. CERTIFIED	8.0 D
PARK	8.8 D

* Ratings are based on visual observations with 0 being free of leaf spot and 9 completely infected by the disease.

+ Different letters indicate significant differences at the 5% level of probability using Duncan's multiple range test.

TABLE 2. Reaction of Kentucky bluegrass varieties to leaf rust incited by Puccinia poae-nemoralis at Adelphia, New Jersey

VARIETY	June 1971	May 1974
GLADE	0.6	0.5
ANHEUSER DWARF	0.6	1.5
NUGGET	0.8	1.5
ADELPHI	1.5	1.0
FYLKING	1.5	2.0
PENNSTAR	1.5	1.0
SYDSPOUT	1.5	0.0
BONNIEBLUE	1.7	1.0
MAJESTIC	1.8	1.0
PRATO	1.5	3.0
BIRKA	2.1	2.0
BRUNSWICK	3.2	4.0
BARON	3.0	3.5
RAM I	3.3	4.0
MERION	3.4	3.0
VANTAGE	7.1	7.0
LSD at 5%		1.1

Leaf rust disease rating 0 = no rust, 9 = most severe

TABLE 7. Visual quality ratings, spring green up for Kentucky bluegrass varieties. Manhattan, Kansas.

CULTIVAR	1977 Quality rating (9 = ideal, 0 = no live turf)							Spring Greenup ^a
	4/6	5/18	6/16	8/3	8/18	10/18	Avg.	4/6/77
ADELPHI	6.2	7.3	8.2	8.7	8.3	8.3	7.8	7.2
AQUILA	6.0	5.5	7.5	7.5	7.5	7.7	7.0	6.0
ARBORETUM	6.5	6.3	7.5	7.5	7.7	7.3	7.1	7.7
ARISTA	6.0	6.5	8.0	7.3	7.7	6.8	7.1	7.2
BARON	6.2	6.2	7.8	8.3	8.3	7.7	7.4	6.5
BIRKA	6.3	7.2	8.3	7.7	8.0	7.3	7.5	6.8
BONNIEBLUE	5.5	6.7	7.7	7.7	8.0	7.5	7.2	7.2
CONTINENTAL	5.7	6.2	7.8	6.5	7.5	7.2	6.8	6.5
FANFARE	6.5	6.5	7.7	7.7	8.0	7.7	7.4	7.0
FYLKING	6.7	6.7	8.0	7.7	8.0	7.3	7.4	6.5
GALAXY	6.8	6.3	8.2	8.2	8.0	7.8	7.6	7.0
GLADE	7.0	6.3	8.0	7.8	8.2	8.0	7.6	7.5
RUGBY	5.5	5.5	7.3	7.5	8.2	8.3	7.1	6.5
MAJESTIC	7.0	5.5	7.5	7.3	7.8	8.0	7.2	7.0
NUGGET	6.3	6.5	7.8	7.0	7.8	7.0	7.1	5.8
PARADE	6.0	6.0	7.7	7.5	8.0	8.5	7.3	6.5
PICKSEED	6.2	6.7	8.0	8.2	8.0	7.7	7.5	7.2
PENNSTAR	6.0	6.2	7.8	7.3	7.5	7.0	7.0	6.0
RAM I	7.0	6.8	8.5	8.3	8.7	8.0	7.9	8.0
SYDSPORT	6.5	6.5	8.0	8.0	8.2	8.2	7.6	7.2
TOUCHDOWN	6.2	6.8	8.3	7.7	8.2	7.3	7.3	6.3

^a 9 = all green, 0 = no green evident

Test established in 1976 and maintained at a 1.0 inch height of cut.

TABLE 14. Spring green-up ratings on Kentucky bluegrass cultivars at Beltsville, Md. on April 5, 1976

CULTIVAR	RATING 1-9 = Best
RAM I	8.66 A *
VANTAGE	8.33 AB
MERION	8.00 ABC
KENBLUE	7.66 ABCD
PARK	7.33 ABCDE
BRUNSWICK	7.33 ABCDE
WINDSOR	7.00 ABCDEF
TOUCHDOWN	6.66 ABCDEFG
ADELPHI	6.33 BCDEFGH
A-34	6.00 CDEFGHI
BONNIEBLUE	5.66 DEFGHIJ
SYDSPOUT	5.33 EFGHIJK
FYLKING	5.00 FGHIJKL
BARON	4.33 HIJKLM
CHERI	4.00 IJKLMN
GLADE	3.66 JKLMN
NUGGET	1.00 O

* Different letters indicate significant differences at the 5% level of probability using Duncan's multiple range test.

Test established fall 1972, mowed at 2½ inches, not irrigated and receiving 2 to 3 lbs. N/M/year.

TABLE 10. Spring green-up and leaf texture on Kentucky bluegrass varieties at Moscow, Idaho, 1977.

CULTIVAR	*SPRING GREEN-UP	+LEAF TEXTURE 7/12/77
ADELPHI	4/25	7
BARON	4/24	6
FYLKING	4/25	5
WARRENS A-34	4/24	8
GLADE	4/26	4
KENBLUE	4/26	4
MERION	4/25	5
PARK	4/18	3
PENNSTAR	4/25	5
SYDSPORT	4/19	8
VICTA	4/20	7
TOUCHDOWN	4/22	4
RAM I	4/21	8
BIRKA		6

* Date of 50% green-up in spring.

+ 1 = Fine 9 = very coarse

Test seeded June 1972, receives GLB N annually, irrigated weekly June to September and mown at a 2 inch height of cut.

OBJECTIVE DESCRIPTION OF VARIETY
BLUEGRASS (POA SPP.)

NAME OF APPLICANT(S) LOFTS PEDIGREED SEED, INC.	FOR OFFICIAL USE ONLY PVPO NUMBER 7800069
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 1 CHIMNEY ROCK RD. P. O. BOX 146 BOUND BROOK, NEW JERSEY 08805	
VARIETY NAME OR TEMPORARY DESIGNATION Ram I	

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. or) when number is either 99 or less or 9 or less.

1. KIND:

1 = POA COMPRESSA 2 = P. PRATENSIS 3 = P. TRIVIALIS 4 = OTHER (Specify) _____

2. REGION OF BEST ADAPTATION:

1 = NORTHEAST 2 = TRANSITIONAL ZONE 3 = NORTH CENTRAL 4 = PACIFIC N.W. 5 = OTHER (Specify) _____

3. MATURITY (At First Anthesis):

1 = EARLY (Delta) 2 = MEDIUM EARLY (Fylking) 3 = MEDIUM (Newport) 4 = LATE (Merion)

<input type="text" value="0"/> <input type="text" value="0"/>	NUMBER OF DAYS EARLIER THAN	<input type="text" value="6"/>	} 1 = NUGGET 2 = FYLKING 3 = DELTA 4 = MERION 5 = NEWPORT 6 = BARON
<input type="text" value="0"/> <input type="text" value="0"/>	NUMBER OF DAYS LATER THAN	<input type="text" value="6"/>	

4. PLANT HEIGHT (Longest Shoot from Soil Surface to Top of Head):

CM. HEIGHT

<input type="text" value="0"/> <input type="text" value="0"/>	CM. SHORTER THAN	<input type="text" value="6"/>	} 1 = NUGGET 2 = FYLKING 3 = DELTA 4 = MERION 5 = NEWPORT 6 = BARON
<input type="text" value="0"/> <input type="text" value="0"/>	CM. TALLER THAN	<input type="text" value="6"/>	

5. HABIT:

1 = PROSTRATE (Fylking) 2 = SEMI-PROSTRATE (Marion)
3 = ERECT (Delta)

6. VEGETATIVE REPRODUCTION (1 = Absent; 2 = Present):

RHIZOMES STOLONS

7. LEAF BLADE:

Color: 1 = LIGHT GREEN (Rough Bluegrass) 2 = BLUE GREEN (Canada Bluegrass) 3 = MODERATELY DARK GREEN (Merion)
4 = DARK GREEN (Adelphi) 5 = OTHER (Specify) _____

Upper Surface: 1 = SHINY 2 = DULL Lower Surface: 1 = SHINY 2 = DULL

MM. WIDTH (Average of 10) MM. LENGTH (Average of 10) (Uncut)

8. LEAF SHEATH (Base):

Seedling Color: 1 = GREEN 2 = RED MM. LENGTH

Keel: 1 = NOT KEELED 2 = KEELED

Surface:

1 = GLABROUS 2 = PUBESCENT 1 = SMOOTH 2 = ROUGH

1 = NON-GLAUCOUS 2 = GLAUCOUS

9. LEAFINESS (At First Anthesis):

Number of leaves per tiller or shoot: 1 = FEW (1 - 3) 2 = INTERMEDIATE (4 - 6) 3 = MANY (More than 6)

10. PANICLE:

MM. LENGTH (Average of 10)

MM. LONGER THAN (Avg. of 10).....

MM. SHORTER THAN (Avg. of 10).....

1 = NUGGET 2 = FYLKING
3 = DELTA 4 = MERION
5 = NEWPORT 6 = BARON

10. PANICLE (Cont.):

NUMBER OF PANICLES PER PLANT MILLIGRAMS SEED PER PANICLE

Branches LOWEST WHORL: 1 = DROOPING (Prato) 2 = HORIZONTAL (Merion) 3 = OTHER (Specify) _____

Panicle Habit: 1 = NODDING (Newport) 2 = UPRIGHT (Nugget) MM. SPIKELET LENGTH

11. LEMMA

KEEL } 1 = GLABROUS 2 = SLIGHTLY PUBESCENT 3 = PUBESCENT 4 = OTHER (Specify) _____

LATERAL NERVES

Intermediate Nerves: 1 = DISTINCT 2 = OBSCURE Basal Webbing: 1 = NONE 2 = SCANT 3 = COPIOUS

12. SEED:

Apomictin Percentage: 1 = MORE THAN 95 2 = 85 TO 95 3 = LESS THAN 85

Phenol Reaction: 1 = NONE - LEMMA REMOVED (Merion) 2 = BEIGE (Cougar) 3 = BROWN (Windsor)
4 = BLACK (Delta - 2 hours) 5 = BLACK (Anheuser - 24 hours)

MM. WIDTH MM. LENGTH GRAMS PER 10,000 SEEDS CHROMOSOME NO. (2n)

13. TURF DENSITY MAINTENANCE AT ONE INCH CUT:

1 = POOR 2 = MODERATE (Merion) 3 = SUPERIOR (Nugget) 4 = EXCELLENT

14. VERTICAL GROWTH RATE:

1 = SLOW (Nugget) 2 = MEDIUM (Merion) 3 = FAST (Delta) 4 = OTHER (Specify relation to a standard) _____

15. SPRING GREEN UP:

1 = EARLY (Windsor) 2 = MEDIUM (Fyiking) 3 = LATE (Nugget)

16. FALL DORMANCY: (1 = Not Dormant; 2 = Intermediate; 3 = Dormant)

NORTHERN ($42^{\circ} 30' \pm 30'$ Lat.) INTERMEDIATE ($40^{\circ} \pm 30'$ Lat.) SOUTHERN ($37^{\circ} 30' \pm 30'$ Lat.)

17. SEEDLING VIGOR (Growth Rate):

Seedling: 1 = SLOW 2 = MEDIUM 3 = FAST

18. ENVIRONMENTAL RESISTANCE: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

<input type="text"/> COOL TEMPERATURE (Winter color)	<input type="text"/> COLD (Injury)	<input type="text"/> HEAT	<input type="text"/> DROUGHT
<input type="text"/> SHADE	<input type="text"/> POOR FERTILITY	<input type="text"/> ACID SOIL	<input type="text"/> ALKALINITY
<input type="text"/> SALINITY	<input type="text"/> SOIL COMPACTION	<input type="text"/> POOR DRAINAGE	<input type="text"/> AIR POLLUTION
<input type="text"/> OTHER (Specify) _____			

19. DISEASE, INSECTS, AND NEMATODE RESISTANCE: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

<input type="text"/> HELMINTHOSPORIUM VAGANS	<input type="text"/> H. SOROKINIANUM	<input type="text"/> H. DICTYOIDES	<input type="text"/> RHIZOCTONIA SOLANI
<input type="text"/> ERYSIPE GRAMINIS	<input type="text"/> USTILAGO STRIIFORMIS	<input type="text"/> FUSARIUM NIVALE	<input type="text"/> F. ROSEUM
<input type="text"/> TYPHULA IOTANA	<input type="text"/> SCLEROTINIA HOMEOCARPA	<input type="text"/> PUCCINIA GRAMINIA	<input type="text"/> P. STRIIFORMIS
<input type="text"/> PYTHIUM ULTIMATUM	<input type="text"/> CRAMBUS BONIFATELLUS	<input type="text"/> OTHER (Specify) _____	

REFERENCE

Nickerson's or any recognized color fan may be used to determine plant colors of the described variety.

STATE OF)
) SS.:
COUNTY OF)

R#0185253.01

The Company hereby further acknowledges and affirms that the rights and remedies of the Lender with respect to the security interest in and lien upon the Company's rights in the Agricultural Intellectual Property Collateral made and granted hereby are more fully set forth in the Loan Agreement, the terms and provisions of which are hereby incorporated herein by reference as if fully set forth herein.

Further, by this Security Agreement, the Company agrees to assign to Lender, upon the occurrence of an Event of Default by the Company (as defined in the Loan Agreement), all of the Company's rights in and to the Agricultural Intellectual Property Collateral; provided that this assignment is expressly contingent upon the occurrence of an Event of Default.

This Security Agreement will become effective June 28, 1996 at the Effective Time of the Merger of Budd Acquisition, Inc., a New Jersey corporation, with and into Lofts Seed Inc., a New Jersey corporation, as provided in a Certificate of Merger to be filed with the New Jersey Secretary of State's office.

IN WITNESS WHEREOF, the Company has caused this Security Agreement to be duly executed by its authorized officer of agent as of June 28, 1996.

LOFTS SEED INC.

[Corporate Seal]

By: Richard P. Budd

Name:

Title: CEO

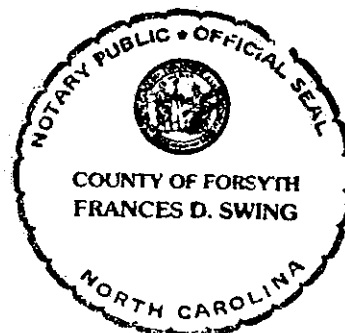
On JUNE 28, 1996, RICHARD P. BUDD personally came before me, FRANCES D. SWING, a Notary Public for said County and State, RICHARD P. BUDD who being by me duly sworn, says that he is CEO of Lofts Seed Inc., and that said writing was signed and sealed by him on behalf of said corporation by its authority duly given. The said RICHARD P. BUDD acknowledged the said writing to be the act and deed of the corporation.

WITNESS my hand and notarial seal.

Frances D. Swing
Notary Public

My Commission Expires: 2-9-97

Dated this 28th day of June 1996.



SCHEDULE A
AGRICULTURAL INTELLECTUAL PROPERTY COLLATERAL
(CERTIFICATES OF PLANT VARIETY PROTECTION)

A. KENTUCKY BLUEGRASS

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
Princeton P105	9600228	4-22-96	Pending	
Eagleton	9600277	6-11-96	Pending	
Preakness	9500090	2-13-95	Pending	
Mystic	8100157	8-26-81	5-27-82	5-27-00
Georgetown	8200187	1982	7-24-83	7-21-01
Lofts 1757	8800230	1988	9-30-92	9-30-10
Laser (Rough Bluegrass)	8900288	1989	10-31-91	10-31-09
Co-owned PVPs				
243 (Nassau)*	8400005	1983	12-21-84	12-21-02
Suffolk*	8800072	1988	5-31-88	5-31-06
Ram I**	7800069	1978	3-15-79	3-15-96

* Jacklin Seed Company listed as co-owner

** Mrs. Barbara B. Curtis listed as co-owner

B. PERENNIAL RYEGRASS

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
Palmer	8200178	9-8-82	5-31-84	5-31-02
Palmer II	9200209	6-16-92	Pending	
Prelude	8200177	9-8-82	5-31-84	5-31-02
Prelude II	9200210	6-16-92	Pending	
Yorktown III	9200212	6-16-92	Pending	

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
Repell	8400148	8-30-84	11-29-85	11-29-03
Yorktown II	7800001	10-6-77	5-1-80	5-1-97
Repell II	9200211	6-16-92	Pending	

C. TALL FESCUE

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
Rebel	8000153	8-21-80	5-14-81	5-14-99
Rebel III	9500129	4-10-95	Pending	
Rebel Jr.	9000240	1990	11-30-92	11-30-10
Rebel 3D	9300200	4-21-93	Pending	
Tribute	8800235	9-15-88	2-28-90	2-28-08
Clemfine	8200175	9-7-82	2-28-83	2-28-01
Rebel II	8700195	1987	1-15-88	1-15-06

D. FINE FESCUE

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
Reliant	8200168	1982	2-28-83	2-28-01
Jamestown II	9100254	1991	8-31-95	8-31-15

E. BENTGRASS

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
L93	9600256	5-8-96	Pending	
Southshore	9200256	1992	10-31-94	10-31-12

F. OTHER

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
Salty (weeping alkaligrass)	9500128	4-10-95	Pending	
Laser II (rough bluegrass)	9500238	6-15-95	Pending	

FILED

JAN 14 1998

LONNA R. HOOKS
SECRETARY OF STATECERTIFICATE OF MERGER OF
LOFTS SEED, INC. INTO
LOFTS MERGERCO, INC.To: The Secretary of State
State of New Jersey

Pursuant to the provisions of Section 14A:10-7 Corporations, General, of the New Jersey Statutes, the undersigned corporations hereby execute the following Certificate of Merger.

ARTICLE ONE

The names of the corporations proposing to merge and the states under the laws of which such corporations are organized, are as follows:

Name of CorporationState of Incorporation

Lofts Seed, Inc.

New Jersey

Lofts Mergerco, Inc.

Nevada

ARTICLE TWO

The laws of the State of Nevada, the state under which such foreign corporation is organized, permit such merger and the applicable provisions of the laws of said jurisdiction have been, or upon compliance with filing and recording requirements will have been, complied with.

ARTICLE THREE

The name of the surviving corporation shall be Lofts Mergerco, Inc. and it shall be governed by the laws of the State of Nevada.

The address of the surviving corporation's registered office is 2700 Sunset Rd., Las Vegas, Nevada 89120 and the name of the registered agent at such address is Johnny Thomas.

ARTICLE FOUR

The following plan of Merger was approved by the shareholders of the undersigned domestic corporation in the manner prescribed by the New Jersey Business Corporation Act, and was approved by the undersigned foreign corporation in the manner prescribed by the laws of the State under which it is organized:

0100 731429

FILED
IN THE OFFICE OF THE
SECRETARY OF STATE OF THE
STATE OF NEVADA

CERTIFICATE OF AMENDMENT OF

ARTICLES OF INCORPORATION OF

LOFTS MERGERCO, INC.

JAN 26 1998

226394-92

Alan Heller
ALAN HELLER, SECRETARY OF STATE

Pursuant to the provisions of Nevada Revised Statutes, Title 7, Chapter 78, the undersigned officers do hereby certify:

FIRST: The name of the Corporation is Loftis Mergerco, Inc.

SECOND: The Board of Directors of the Corporation duly adopted the following resolutions on January 10, 1998:

RESOLVED, that it is advisable in the judgment of the Board of Directors of the Corporation that the name of the Corporation be changed, and that, in order to accomplish the same, Article FIRST of the Articles of Incorporation be amended to read as follows:

"FIRST: The name of the corporation (hereinafter called the Corporation) is Loftis Seed Company, Inc."

FURTHER RESOLVED, that a special meeting of the sole stockholder having voting power be and it is hereby called and that notice be given in the manner prescribed by the By-laws of the Corporation and by Nevada Revised Statutes, Title 7, Chapter 78, unless the said stockholder shall waive the notice of meeting in writing or unless the said stockholder shall dispense with the holding of a meeting and shall take action upon the proposed amendment by a consent in writing signed by the sole stockholder, and

FURTHER RESOLVED, that in the event that the said stockholder shall adopt the aforesaid proposed amendment by a vote in favor thereof by at least a majority of the voting power or by a written consent in favor thereof signed by the sole stockholder without a meeting, the Corporation is hereby authorized to make by the hands of its President or a Vice President and by its Secretary or an Assistant Secretary a certificate setting forth the said amendment and to cause the same to be filed pursuant to the provisions of Nevada Revised Statutes, Title 7, Chapter 78.

THIRD: The total number of outstanding shares having voting power of the Corporation is 200, and the total number of votes entitled to be cast by the holder of all of said outstanding shares is 200.

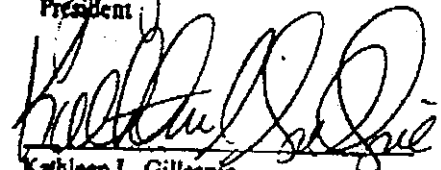
FOURTH: The holder of all of the aforesaid total number of outstanding shares having voting power dispensed with the holding of a meeting of the sole stockholder and adopted the amendment herein certified by a consent in writing signed by the sole stockholder in accordance with the provisions of Nevada Revised Statutes, Title 7, Section 78.320.

January 22, 1998

LOFTS MERGERCO, INC.

By:


Johnny R. Thomas
President


Kathleen L. Gillespie
Assistant Secretary


State of Nevada)
) SS.:
County of Clark)

On January 22, 1998, personally appeared before me, a Notary Public, for the State and County aforesaid, Johnny R. Thomas, as President and Kathleen L. Gillespie, as Assistant Secretary of Loft's Mergerco, Inc., who acknowledged that they executed the above instrument.



NOTARY PUBLIC
STATE OF NEVADA
County of Clark
C.J. WORTH

My Appointment Expires April 23rd, 1998


Notary Public

Q:\WORK\ALP\ART\LOFTS\NAMECHNG.LMC